

REMARKS

This communication is a full and timely response to the non-final Office Action dated February 9, 2005 (Paper No./Mail Date 20050207). By this communication, the title of the invention and claim 1 have been amended.

The title of the invention has been amended to "Lamp Lighting Apparatus for a Discharge Lamp." No new matter has been added.

Claim 1 has been amended to improve idiomatic English and form. No new matter has been added.

Claims 1-6 are pending where claim 1 is independent.

Allowable Subject Matter

As a preliminary matter, Applicant thanks the Examiner for indicating the presence of allowable subject matter in claims 3-6. However, for the reasons stated below, Applicant respectfully submits that claims 1 and 2 also contain allowable subject matter. Accordingly, at this time, Applicant has not placed any of claims 3-6 in independent form.

Objection to the Specification

The title of the invention was objected to as non-descriptive. As discussed above, the title of the invention as been amended to describe the invention as "Lamp Lighting Apparatus for a Discharge Lamp." Accordingly, Applicant respectfully requests that the objection to the title be withdrawn.

Rejections Under 35 U.S.C. §112

Claims 1-6 were rejected under 35 U.S.C. §112, second paragraph, as indefinite. In particular, the Office Action alleges that "a first voltage or higher," as recited in claim 1, is unclear. Applicant respectfully traverses this rejection. However, in an effort to expedite prosecution, Applicant has canceled "or higher" from the claim. Accordingly, Applicant respectfully requests that the rejection to claim 1 under 35 U.S.C. §112 be withdrawn.

Rejections Under 35 U.S.C. §102

Claims 1 and 2 were rejected under 35 U.S.C. §102(b) as anticipated by *Lau*, U.S. Patent No. 6,181,084. Applicant respectfully traverses this rejection.

Claim 1 recites a lamp lighting apparatus for lighting a discharge lamp in which discharge medium is encapsulated and a pair of electrodes are provided, the lamp lighting apparatus comprising a discharge drive circuit that supplies discharge current to the discharge lamp; a voltage conversion circuit that boosts voltage from a DC power and supplies the boosted voltage to the discharge drive circuit; and an arc discharge detecting circuit that detects whether a state of discharge of the discharge lamp changes to arc discharge, and outputs an arc discharge transition signal to the voltage conversion circuit, wherein when the voltage conversion circuit receives the arc discharge transition signal which shows that the transition to the arc discharge fails to occur, the voltage conversion circuit supplies a first voltage to the discharge drive circuit, and when the voltage conversion circuit receives the arc discharge transition signal which shows that the transition to the arc discharge occurs, the voltage conversion circuit supplies a second voltage lower than the first voltage to the discharge drive circuit.

Lau discloses a ballast circuit for high intensity discharge (HID) lamps having a boost converter 16, buck converter 18, and a control circuit 20. The boost converter 16 boosts the input voltage to a high level to ignite the lamp. Once the HID lamp is lit, buck converter 18 transitions the boosted voltage to a reduced level. The control circuit 20 controls the reduction of the output voltage during the transition from ignition of the lamp to steady state operation. An over voltage protection (OVP) circuit 40 of the control circuit 20 stops the impression of trigger pulses after a lamp is turned on, and when the lamp is not turned on a boost controller 36 is stopped. In particular, the OVP 40 senses the voltage differential between the boosted output at the cathode of the lamp and the reduced voltage at the anode of the lamp 24. *Lau*, however, fails to disclose, teach, or suggest at least an arc discharge detecting circuit that detects whether a state of discharge of the discharge lamp changes to arc discharge. In fact, there is no discussion in *Lau* for the capability or need to detect arc discharge.

To properly anticipate a claim, the document must disclose, explicitly or implicitly, each and every feature recited in the claim. See Verdegall Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *Lau* fails to disclose, teach, or suggest every element recited in independent claim 1 therefore these claims are not anticipated by *Lau*. Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. §102 be withdrawn, and this claim be allowed.

Claim 2 depends from claim 1. By virtue of this dependency, Applicant submits that claim 2 is allowable for at least the same reasons given above with respect to claim 1. In

addition, Applicant submits that claim 2 is further distinguished over *Lau* by the additional elements recited therein, and particularly with respect to each claimed combination. Applicant respectfully requests, therefore, that the rejection of claim 2 under 35 U.S.C. §103 be withdrawn, and this claim be allowed.

Conclusion

Based on at least the foregoing amendments and remarks, Applicants submit that claims 1-6 are allowable, and this application is in condition for allowance. Accordingly, Applicants request favorable reexamination and reconsideration of the application. In the event the Examiner has any comments or suggestions for placing the application in even better form, Applicants request that the Examiner contact the undersigned attorney at the number listed below.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. UDK-0015 from which the undersigned is authorized to draw.

Dated: April 25, 2005

Respectfully submitted,

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